



Faster Fires:

TTP for Sensor-to-Shooter and Clearance of Fires Operations

By Lieutenant Colonel Scott G. Wuestner

Today's brigade task force is well-equipped and manned to place indirect combat power at the critical time and place. The problem is task force indirect fires are not responsive in the close fight.

At least part of the problem is the sensor-to-shooter architecture. The system is bogged down with layers and layers of command and control nodes that clear fires.

In addition, doctrinal clearance of fires procedures are neither followed nor rehearsed. In Joint Readiness Training Center (JRTC) rotations at Fort Polk, Louisiana, we rarely hear units discuss the clearance options of *pre-designated* or *decentralized* control in the operations order (OPORD) or during rehearsals. Units have defaulted to *centralized* control for all tactical operations because they have little confidence in the

company fire support team's (FIST's) clearing fires and little training in the clearance process.

This article focuses on TTP for the Field Artillery forward observer (FO) and Kiowa Warrior aerial observers employed as sensors to make fires faster and more responsive. I outline TTP to streamline sensor-to-shooter operations and clearance of fires procedures.

Weighting the Main Effort. The decision to establish either centralized or decentralized control of fires is based on the tactical mission and the results of the military decision-making process (MDMP). A clear task, purpose and end-state must be assigned to both the sensor and shooter.

For example, during the movement-to-contact phase at the JRTC, requirements to mass artillery fires are limited.



So how do FA units task organize their firing batteries? They weight the main effort by assigning priority-of-fires (POF) and priority targets to a specific battery to support a specific maneuver battalion. (Unfortunately, priority targets are not consistently used throughout all phases of operations at the JRTC.)

Of note, on an average, it takes 30 to 45 seconds to shoot a priority target; in comparison, it takes three to three and one-half minutes to shoot a target of opportunity—a significantly longer time to deliver mortar or artillery fires.

In most cases this would be the battery habitually assigned to the battalion task force. This battery would respond to calls-for-fire (CFFs) from the infantry battalion as a first priority and the FA

battalion as a second priority (much like a direct support, or DS, mission for an FA battalion).

This does not mean the battalion can't mass if the target warrants it. But the FA battalion must do the target analysis and determine what targets will require massed fires before executing the mission.

This weighting of the main effort eliminates two levels of control or delay. It eliminates the battalion fire direction center (FDC) as an additional technical step and the brigade or battalion fire support element (FSE) as a clearance headquarters for all fires.

Using Focused Targets and Clear Graphics. A second consideration is the development of targets or target areas of interest (TAIs) during the

MDMP to focus the sensor and orient the shooter. Limited, focused targets combined with clear and concise graphics enable units to clear fires more efficiently and effectively.

We have lost our ability to portray the battlefield graphically. For example, during movements-to-contact, some units design "horse blankets" that aren't tied to the current operational graphics. The horse blanket must be tied to specific phase lines, boundaries and other graphical measures that are tied to the terrain. FSOs must be involved in the MDMP process and develop graphics that facilitate clearance of fires integrated with maneuver.

Such linkages facilitate the brigade's ability to shape the deep fight by moving fire support coordinating measures (FSCM) as close as possible to friendly forces. With proper graphics, fire supporters can give close air support (CAS) aircraft and attack helicopters much needed battlespace to execute the deep fight.

In the end, detailed graphics coupled with priority targets reduce sensor-to-shooter times significantly.

Clearing Fires and Employing Sensor Control Options. Given focused sensors and shooters with executable graphics, units can optimize the sensor-to-shooter linkage and improve fires in the close fight. The next consideration is the pre-clearance of fires against specified targets tied to specific sensors.

Pre-Clearance of Fires. Typically, fire support coordinators (FSCOORDs) and brigade and battalion fire support officers (FSOs) at the JRTC don't pre-clear fires to the lowest execution level. Most units cover target responsibility using the PLOT-CR methodology (purpose, location, observer, trigger—communication and rehearsals) and do not discuss types of sensor controls or clearance of fires procedures.

Rapid clearance of fires is tied directly to the type of control specified for the sensor and whether or not they have POF. Using our current doctrinal definitions for "centralized," "decentralized" and "pre-designated" control, the figure shows the relationship between POF, the type of control and communications. These procedures apply from the brigade down to the platoon levels.

Communications. Another major consideration is the communications system and structure. Units should ask two questions. What is the distance between the sensor and shooter and do we need

1. POF for a Specified Shooter

• Centralized Control

-*Good communications with the Higher FSE*—The sensor controls the shooter after getting clearance to engage from the higher level FSO.

-*No Communications with the Higher FSE*—The sensor works through the shooter or chain of command to receive clearance. The shooter does not engage without clearance.

• Decentralized or Pre-Designated Control*

-*Good Communications with the Higher FSE*—The sensor controls the shooter directly (i.e., pre-arranged target(s), lead elements in movement-to-contact, shifting priority targets, etc. The Kiowa Warrior or FO executes the CFF directly with the firing battery. (This is a version of Option 4 listed in the new FM 6-20-40 *Tactics, Techniques and Procedures for Fire Support for Brigade Operations*.) The FSO monitors the CFF. (Note: He does not have to clear the mission; it already has been cleared during planning, coordination and rehearsals.) The sensor sends BDA/mission status to the higher FSE.

-*No Communications with the Higher FSE*—The sensor controls the shooter directly (i.e., pre-arranged target(s), lead element in movement-to-contact, shifting priority targets, etc. The Kiowa Warrior or FO executes the CFF directly with the firing battery. (This is a version of Option 4 listed in the new FM 6-20-40.) The sensor works through the shooter or chain of command to send BDA/mission status to the higher command and control element or FSE.

2. No POF for a Specified Shooter

• Centralized, Decentralized or Pre-Designated Control*

-The sensor requests the firing asset from the higher FSE. The FSO approves or denies the mission. If the mission is approved, the asset returns to the appropriate sensor that had POF, once the mission is complete. The sensor provides the FSO BDA or mission status. (Note: the POF and type of control can be changed at any time in the operation.)

*To use decentralized or pre-designated control, units must clearly understand the scheme of maneuver and ROE and have conducted detailed planning and rehearsals.

Legend:

BDA = Battle Damage Assessment FO = Forward Observer FSO = Fire Support Officer
CFF = Call-for-Fire FSE = Fire Support Element ROE = Rules of Engagement

Clearance of Fires Procedures. This figure gives the clearance procedures when a unit has priority of fires (POF) from a specified shooter or no POF from a specified shooter, based on the type of control and communications.

to establish a separate communications net between the sensor and shooter?

At times, these questions are the key element of the process. If the sensor can't talk to the shooter, they can't shoot.

Most units do not properly analyze radio ranges, line-of-sight diagrams and net configurations between the sensor and shooter before executing all phases of an operation. During a movement-to-contact, communications between the FO with a long whip antenna and a firing battery is normally less than eight kilometers, the planning range for the single-channel ground and airborne radio system advanced system improvement program (SINCGARS ASIP). However, FOs consistently send missions to the company FSE or battalion FSE for relay to the battalion FDC. This is inefficient and ineffective.

If units must retrans a battery CFF net, they usually pick the brigade FSE or battalion observed fire net over the battalion or battery CFF net. This net becomes task saturated with fire support coordination, tactical fire control and CFFs and fails to facilitate rapid CFFs. A light FA battalion can retrans two nets based on current modified table of organization and equipment (MTOE).

The FSCOORD must decide how to task organize his nets. He must consider retransmitting the main effort battalion's battery CFF net during movement-to-contact operations. During the attack or defense phase, the CFF may shift to the battalion CFF net where massing of fires becomes more critical.

There has been much discussion about quick-fire nets (voice only, not digital). *FM 6-20-50 TTP for Fire Support for Brigade Operations (Light)* defines two types of nets: the quick-fire net and the exclusive net. A quick-fire net (voice) authorizes direct association of an observer with a selected weapon system (normally Field Artillery). Although the designated observer is not the only observer on the net, he has the highest priority for CFFs. In a voice net, the net control station (NCS), which is normally the FDC, restricts all other net traffic immediately upon receiving a request for fire from the priority observer.

An exclusive net (voice) is a fire direction net designated to be used solely by the observer and the appropriate FDC for a limited time (as a field expedient). No other sensor enters the net except in an emergency. Exclusive nets are not used very often because they tie up assets for extended periods.



Currently all light divisions use one net for both mortar CFFs and battalion fire support coordination.

As you can see, we have some redundancy in our definition of a quick-fire net and in the execution of our FO control options. If an FO or Kiowa Warrior observer is given POF and either decentralized or pre-designated control, then he has the highest priority for CFFs.

Most units end up calling a habitually associated CFF net, such as the battery CFF net, a quick-fire net. This is not a quick-fire net. Using a battery CFF net is nothing more than changing the sensor priority of the battery and executing decentralized fire direction.

In the end, the definition is irrelevant as long as the process of tying specific sensors to a shooter is planned for and rehearsed.

There are two other ways to reduce sensor-to-shooter times for battalion and company teams. The first is to establish a separate battalion mortar net. Currently all light divisions use one net for both mortar CFFs and battalion fire support coordination. The net again becomes saturated with coordination and CFFs occurring simultaneously. This can be disastrous. There should be a separate net for 81-mm mortar CFFs and one for battalion fire support coordination.

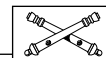
Second, ground forces should control Kiowa Warriors using a separate net. Currently, Kiowa Warriors contact ground forces using the maneuver company command frequency. This method inhibits the company commander from controlling his company and ties up his net, especially CFFs sent over that frequency.

A separate permanent net or quick-fire net should be established between the company FSE/FO and the aircraft—just like the artillery battery CFF nets. The FSO can send the initial situational information to the aircraft, and the company FSE can control the Kiowa Warriors in concert with the commander's guidance, just like the artillery.

These techniques are not new. Unfortunately, units have strayed away from some of these basic procedures.

Our task is to provide timely, accurate fires for our maneuver forces. We do this by weighting the main effort with POF and priority targets and using dedicated batteries; using detailed graphics and FSCM that facilitate indirect and direct fires; ensuring clearance of fires and sensor-to-shooter options are clearly written and thoroughly rehearsed; and configuring communications to talk to the lowest level to rapidly execute fires.

As light and contingency force fire supporters, our ability to execute rapid, accurate fires in the close fight remains critical to the Field Artillery's remaining relevant on today's transforming battlefield. The more we look for different ways to speed up sensor-to-shooter responsiveness, the more we see our doctrine is applicable—if used properly—and effective in supporting maneuver in the close fight.



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